



THE COMMONWEALTH OF MASSACHUSETTS
WATER RESOURCES COMMISSION
100 CAMBRIDGE STREET, BOSTON MA 02114

WATER RESOURCES COMMISSION

**Amendment to the June 8, 2000
Interbasin Transfer Act Decision
Mansfield Morrison Well #10
Modification of the Hydrologic and Vegetative Monitoring Plans**

April 14, 2016

Background

On June 8, 2000, the Water Resources Commission (WRC) approved a request by the Town of Mansfield for an interbasin transfer of 0.99 mgd in water supply from Well 10 (also known as the Morrison Well) located adjacent to the Witch Pond Swamp in the Ten Mile River basin, to be used and discharged within the Taunton River basin. As a condition of this Interbasin Transfer Act (ITA) approval, Mansfield was required to develop and implement a monitoring plan to assess the impacts and provide protection to the adjacent Atlantic White Cedar Swamp, which provided habitat for two state listed species: the Hessel's Hairstreak Butterfly and Spotted Turtle. (The Spotted Turtle is no longer a listed species.) The ITA approval also included ground water elevation thresholds to be used as shutoff triggers for Well 10. The monitoring plan was approved by the WRC on April 16, 2001, and Mansfield has complied with baseline and operational monitoring, reporting, and ground water elevation shutoff requirements.

Town of Mansfield's Proposal

In March 2016, the Town proposed to discontinue ground water monitoring and reporting, and observation of ground water elevation shutoffs, required as part of the ITA approval, in exchange for ceasing pumping operations at Well 10 during the months of August, September, and October. The town also proposed to extend the interval of wetland vegetative monitoring from every five years to every ten years. In addition, Mansfield has proposed to continue a glossy buckthorn eradication program in the Witch Pond Atlantic White Cedar Swamp and provide an annual summary of the buckthorn eradication program.

Analysis

WRC Staff, along with scientists from the Natural Heritage and Endangered Species Program (NHESP) and MA Department of Environmental Protection (MassDEP) reviewed the past 15 years of monitoring results at Well 10 and determined that the results verify the hydrologic conditions on which the 2000 ITA approval was based. The data indicate that the ground water level shutoff thresholds are most likely to be reached between August and October and water levels in the Atlantic White Cedar swamp appear to be more influenced by rainfall than by the pumping from the Morrison Well (see attached Figure including results for 2001 and 2002 when no pumping occurred). Therefore, pumping is not causing a discernible decline in water levels in the peat layer that supports the Atlantic White Cedar swamp. The 15-year monitoring effort did reveal an invasion of glossy buckthorn.

Annual withdrawals have ranged from 0.03 to 0.45 mgd (the average over the last three years is 0.12 mgd) and with the availability of increased water treatment capacity elsewhere in its water supply system, the town does not expect to use Well 10 at its authorized capacity. However, even if withdrawals are increased at the well, NHESP has concluded that the wetland system is resilient and expects that very little, if any, detectable change in vegetation will result from this change in the pumping regimen of Well 10, especially since pumping will not occur from August 1 to October 31, when water levels are lowest each year. NHESP considers the presence of glossy buckthorn a much more immediate threat to protected species and their habitats than potential increases in water withdrawals. According to NHESP, the amount of hydrological alteration necessary to be reflected by vegetation change is likely unachievable under Mansfield's authorized interbasin transfer limit. At five-year intervals, the vegetation monitoring has not revealed meaningful changes in wetlands conditions. Monitoring results indicates that it would not be possible to correlate change with alteration due to withdrawals because of all the other variables affecting the system (such as nitrification).

Decision

After review and consideration of the analysis presented above, on April 14, 2016, **the WRC approved Mansfield's March 2016 Proposal for the Morrison Well 10, subject to the following conditions:**

1. Mansfield must provide a final monitoring report containing hydrologic monitoring data from 2015 through April 14, 2016, by July 31, 2016;
2. Mansfield must cease pumping operations of Well 10 during the months of August, September, and October each year;
3. Mansfield must continue buckthorn eradication in the Witch Pond Swamp to the satisfaction of NHESP. NHESP must be notified when the eradication procedures commence each season and may visit the site to observe the process;
4. An annual summary of the buckthorn eradication program shall be provided to NHESP, MassDEP, and WRC staff for review and approval;
5. Mansfield may perform vegetative monitoring in accordance with the 2001 plan on a 10-year interval (rather than the approved 5-year interval). The most recent vegetative monitoring survey was conducted in 2013; therefore, the next survey would be required in 2023, with its report due to the agencies in 2024.
6. Mansfield may discontinue hydrologic monitoring and reporting related to Well 10.
7. In accordance with Condition 5 under Criterion 5 of the June 8, 2000 Mansfield ITA approval for Morrison Well #10, if after review of the 2023 vegetative monitoring report, NHESP finds alteration of the habitat or evidence of increasing invasive species in the Atlantic White Cedar swamp, pumping the Morrison Well may be restricted accordingly.

